
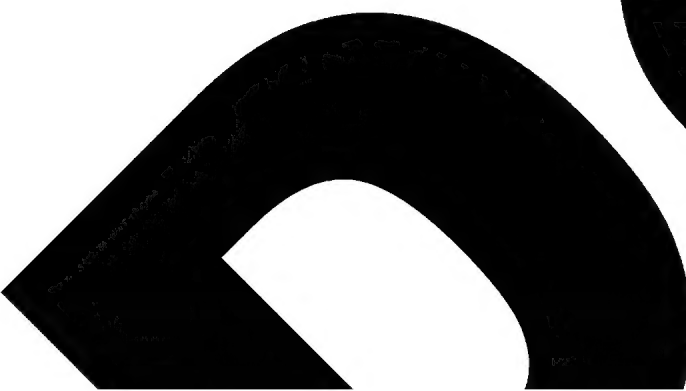


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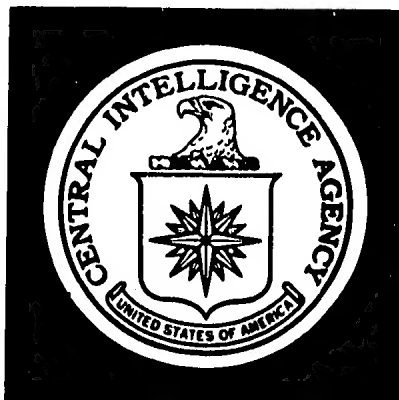


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DIRECTORATE OF
INTELLIGENCE

Intelligence Memorandum

East Asia: Some Economic Effects of the War in Vietnam

~~Secret~~

ER IM 69-18
February 1969

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SECRET**Foreword**

This memorandum concerns the effects of the Vietnam war on the Free World economies of East Asia, except for the war economies of South Vietnam and Laos. The first step of the analysis is to identify the increase in US dollar expenditures in East Asia that resulted from the war in Vietnam. In addition to these direct effects of the Vietnam war, there were also all sorts of indirect effects. Some of these can be related to identifiable trade flows. The war-induced increase in incomes and prices in the United States resulted in a rapid increase in US imports, from which Japan benefited. Increased dollar earnings in East Asia, excluding Japan, stimulated Japanese exports to that area. Rough calculations of these indirect effects on the Japanese economy have been made. There has been no attempt, however, to estimate indirect effects of this type in other East Asian countries, because they appear to be too small to be separated from all the other determinants of foreign trade. Other types of indirect effects are those resulting from the influence of the war on government policies in the area. For example, the policies followed by the Cambodian government in response to the war resulted in the cessation of US aid to that country and its partial substitution by Communist aid. The war may have increased or diminished the expenditures various countries have needed to combat insurgencies. Effects such as these are highly complex, however, and any attempt to quantify them would be not only extremely difficult but also extremely speculative. Therefore, all such effects have been ignored.

This memorandum covers the years 1965-68. Many of the statistical calculations, however, begin in 1966 because it was not before that year that the large US military buildup began. It also covers the following countries: Australia, Burma, Cambodia, Hong Kong, Japan, Indonesia, Malaysia, New Zealand, Philippines, Ryukyus, Singapore, South Korea, Taiwan, and Thailand.

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
February 1969

INTELLIGENCE MEMORANDUM

East Asia: Some Economic Effects
of the War in Vietnam

Summary

Beginning in 1966 the United States markedly increased its expenditures related to the war in Vietnam. But while billions of dollars have been spent on the war since then, only a small part of the total has been spent abroad. In consequence, the effect on the rest of the world has been relatively small, a great contrast with the Korean war period, when prices of primary products skyrocketed in response to war-related demand, greatly raising incomes in less developed countries, including those of East Asia.

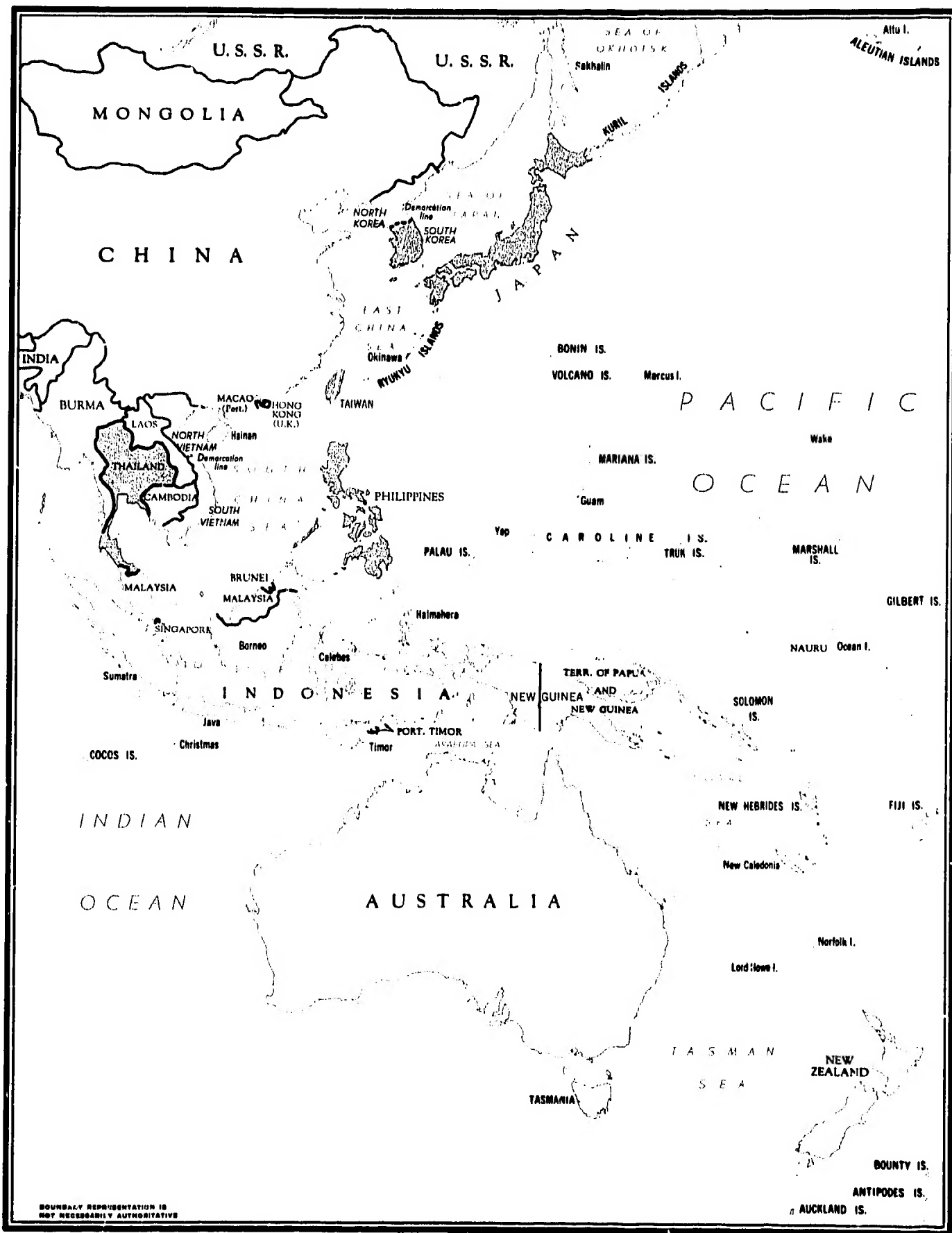
Nevertheless, there has been a substantial flow of dollars to the countries of East Asia that can be attributed to the war. While the amount and effect of this spending varies from country to country, in no case has it been large enough to have been an important determinant of economic growth. Thus the decline and ultimate end of US spending related to the Vietnam war will probably have only a minor negative impact on the economies of East Asia. The major growth determinants in the next few years will continue to be the same as they have been in the past -- that is, relatively prudent economic policies and the continued expansion of exports to the United States and Japan.

In 1968, direct US war-related dollar expenditures in East Asia amounted to about \$1 billion.

Note: This memorandum was produced solely by CIA. It was prepared by the Office of Economic Research and was coordinated with the Office of Current Intelligence and the Office of National Estimates.

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Economic Growth in East Asia

1. In order to estimate the impact of the Vietnam war on the economies of East Asia -- excepting South Vietnam -- it is essential to identify the main factors that determined economic growth prior to the intensification of the war. Two determinants can be singled out: the generally prudent economic policies pursued by most of these countries and the expansion of the US and Japanese economies.

2. It is difficult to overstate the roles played by the United States and Japan in East Asian economic growth. The United States provides the prime stimulant as the largest export market for the region's manufactures and raw materials and as the principal supplier of investment funds and economic aid. Japan is the only East Asian country capable of producing the wide range of manufactured goods sought by countries in the area and, in turn, purchases a large share of the region's raw materials. The dominant movements of goods and services of concern to this study are between Japan and the United States, and between these two countries and the rest of Asia. Economic relations among East Asian countries -- less Japan -- are small, accounting for about 10 percent of their total exports.* This pattern of trade has not changed much since 1963. Indeed the dominance of the United States and Japan has increased somewhat and the share of intra-area trade (excluding Japan) has declined, as shown in the tabulation below and in Figures 1 and 2.

* Excluded from intraregional trade are goods flowing through Singapore and Hong Kong which are destined for nonregional countries or which are coming from outside the region for countries of the region.

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To	1963		1967	
	Million US \$	Per- cent	Million US \$	Per- cent
Japan	1,403	15	2,143	18
United States	1,360	14	2,141	18
Regional <u>a/</u>	1,250	13	1,260	11
Other <u>b/</u>	5,503	58	6,261	53
<i>Total</i>	<i>9,516</i>	<i>100</i>	<i>11,805</i>	<i>100</i>

a. Excluding Japan, South Vietnam, and entrepot trade.

b. Including East Asian entrepot trade.

3. Even before the Vietnam war intensified in 1965, many East Asian countries had annual growth rates for GNP of between 7 and 15 percent in real terms. Some of the countries -- Hong Kong, Singapore, South Korea, and Taiwan -- increasingly used their relatively low-cost labor to manufacture a variety of products for export, mainly to the United States. In the case of South Korea, for example, exports rose from \$30 million in 1960 to \$175 million in 1965, with exports to the United States accounting for almost half of this increase.

4. Japan's average annual growth rate exceeded 10 percent from 1955 to 1964. Although domestic demand was the dominant factor, the increase in exports (about 15 percent per year) was also an important stimulus. Japan was able to rapidly expand exports of the more sophisticated consumer and industrial goods while, because of rising labor costs, it was losing its competitive advantage to South Korea, Taiwan, and other countries in exporting labor-intensive goods. Much of the increase in sophisticated exports was sold in the United States, which took an increasing share of Japanese exports.

5. Thailand's 7-percent annual growth rate was based mainly on agricultural exports rather than on manufacturing. Larger foreign sales of rice and of newly promoted products such as corn and kenaf were especially important. Almost one-fourth of the increased exports were sold in Japan.

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EAST ASIAN TRADE 1963

Figure 1

Exports	Imports										
	Australia	Burma	Taiwan	Hong Kong	Indonesia	South Korea	Malaysia	New Zealand	Philippines	Ryukyus	Singapore
Australia		8	15	52	7	7	34	179	20	*	41
Burma	*		*	5	31	2	11	*	13	*	8
Taiwan	2	*		29	*	16	8	1	6	4	11
Hong Kong	22	6	10		15 b/	3	48	11	10	*	40
Indonesia	66	*	*	9		1	77 b/	8	19	*	146 b/
South Korea	*	*	*	9	*		*	*	3	*	*
Malaysia	31	1	6	12	2	2		*	21	*	228 b/
New Zealand	48	*	*	2	*	*	6		2	*	*
Philippines	2	*	11	3	*	6	*	*		2	*
Ryukyus	*	*	*	*	*	*	*	*	*		*
Singapore	28 b/	3 b/	2 b/	30 b/	85 b/	3 b/	401 b/	11 b/	2 b/	*	
Thailand	1	*	6	45	38	1	73	*	8	*	37
South Vietnam	*	*	*	7	1	1	1	*	*	*	8
Subtotal	200	18	50	203	179	42	659	210	104	6	519
Japan	159	76	107	246	99	160	56	44	150	136	112
United States	446	12	137	146	109	238	30	72	323	37	53
East Asia and United States	805	106	294	595	387	440	745	326	577	179	684
World	2,462	211	326	1,167	452	504	935	797	618	179	1,258

a. All figures are f.o.b.

b. Largely entrepot trade.

* Negligible.

Represents 10 percent or more of the country's total exports.

EAST ASIAN TRADE 1963

Million US \$

Imports

	South Korea	Malaysia	New Zealand	Philippines	Ryukyu	Singapore	Thailand	South Vietnam	Subtotal	Japan	United States	East Asia and United States	World
7	7	34	179	20	*	41	10	2	375	483	320	1,178	2,788
	2	11	*	13	*	8	*	*	70	16	*	86	271
*	16	8	1	6	4	11	11	32	120	105	54	279	332
5 b/	3	48	11	10	*	40	19	4	188	54	177	419	873
	1	77 b/	8	19	*	146 b/	34	17	377	92	113	582	696
*	*	*	*	3	*	*	2	12	26	25	24	75	87
2	2	*	*	21	*	228 b/	8	*	311	196	130	637	1,088
*	*	6	*	2	*	*	*	*	58	44	157	259	910
*	6	*	*	*	2	*	*	*	24	198	331	553	727
*	*	*	*	*	*	*	*	*	*	58	9	67	67
5 b/	3b/401 b/	11 b/ 2 b/	*	*	*	*	31 b/21 b/	b/	617	45	10	672	1,135
8	1	73	*	8	*	37	2		211	83	34	328	465
1	1	1	*	*	*	8	*		18	4	1	23	77
9	42	659	210	104	6	519	115	90	2,395	1,403	1,360	5,158	9,516
9	160	56	44	150	136	112	181	33	1,559		1,522	3,081	5,453
9	238	30	72	323	37	53	96	115	1,814	1,714		3,528	23,384
7	440	745	326	577	179	684	392	238	5,768	3,117	2,882	11,767	38,353
2	504	935	797	618	179	1,258	549	257	9,715	6,063	17,014	32,792	136,000

Country's total exports.

EAST ASIAN TRADE

1967

Figure 2

Exports	Imports											
	Australia	Burma	Taiwan	Hong Kong	Indonesia	South Korea	Malaysia	New Zealand	Philippines	Ryukyus	Singapore	Thailand
Australia		4	23	46	10	9	53	163	40	8	57	25
Burma	*		*	4	8	*	2	*	8	*	9	*
Taiwan	8	*		51	13	19	8	*	8	9	14	26
Hong Kong	40	2	11		104 b/	9	28	13	19	*	60	23
Indonesia	63	1	*	15		1	32 b/	2	22	*	152 b/	8
South Korea	2	*	3	15	1		*	*	*	1	4	6
Malaysia	38	*	10	11	7	18		4	22	*	276 b/	11
New Zealand	53	*	1	3	*	1	8		7	*	6	2
Philippines	4	*	12	4	16	18	*	*		4	4	1
Ryukyus	*	*	*	*	*	*	*	*	*		*	*
Singapore	24b/	3b/	6b/	38b/	131 b/	3b/	359 b/	10b/	6b/	*		42
Thailand	2	1	13	52	27	*	58	*	8	*	47	
South Vietnam	*	*	*	*	*	*	*	*	*	*	*	*
Subtotal	234	11	79	239	317	78	548	192	140	22	629	144
Japan	359	26	294	349	155	407	88	64	363	267	160	341
United States	889	10	333	249	68	411	49	89	424	69	65	164
East Asia and United States	1,482	47	706	837	540	896	685	345	927	358	854	649
World	3,506	128	763	1,636	802	896	978	860	1,055	358	1,296	895

a. All figures are f.o.b.

b. Largely entrepot trade.

* Negligible.

Represents 10 percent or more of the country's total exports.

EAST ASIAN TRADE

1967

Million US \$

Imports

South Korea	Malaysia	New Zealand	Philippines	Ryukyu	Singapore	Thailand	South Vietnam	Subtotal	Japan	United States	East Asia and United States	World
9	53	163	40	8	57	25	3	441	693	387	1,521	3,476
*	2	*	8	*	9	*	*	31	5	*	36	124
19	8	*	8	9	14	26	71	227	114	167	508	641
b/	9	28	13	19	*	60	23	21	83	435	848	1,527
1	32	b/	2	22	*	152	b/	8	176	163	635	641
	*	*	*	1	4	6	7	39	85	137	261	320
18		4	22	*	276	b/	11	3	248	171	819	1,216
1	8		7	*	6	2	*	81	89	147	317	993
18	*	*		4	4	1	3	66	374	351	791	812
*	*	*	*		*	*	*	*	76	7	83	83
/	3b/359	b/	10b/	6b/	*	42b/100b/		722	51	80	853	1,271
*	58	*	8	*	47	19		227	147	96	470	685
*	*	*	*	*	*	*		*	2	*	2	16
78	548	192	140	22	629	144	227	2,860	2,143	2,141	7,144	11,805
407	88	64	363	267	160	341	175	3,048	3,012		6,060	10,442
411	49	89	424	69	65	164	297	3,117			5,782	31,147
896	685	345	927	358	854	649	699	9,025	4,808	5,153	18,986	53,394
896	978	860	1,055	358	1,296	895	725	13,898	10,498	26,732	51,128	190,400

Country's total exports.

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6. Australia's economic growth accelerated in the mid-1960's partly because of major new mineral investments. The country achieved an annual growth rate of about 10 percent during 1963 through 1965.

7. Other East Asian countries had annual growth rates of 5 percent or less. Economic expansion in Indonesia and Burma failed to match increases in population chiefly because of unsound economic policies. The Philippines grew at about 4 percent a year, a rate only slightly higher than the rise in population, mainly because numerous socio-economic problems stifled production and foreign investment. Malaysia's relatively slow growth was mainly due to the sluggish world demand for its two major exports -- rubber and tin. Cambodia experienced no spurt of growth in any major sector, and its GNP grew at perhaps 4 percent annually.

8. There have been no basic changes in the growth patterns of East Asia since 1965, when the United States accelerated its expenditures related to the Vietnam war. Japan, Australia, Hong Kong, Singapore, South Korea, and Taiwan have continued to grow at rates between 7 and 15 percent annually, essentially for the same reasons that prevailed prior to 1965. The growth rate did drop in Thailand to 5 percent in 1967 because of a severe drought. The countries that had experienced slow growth prior to 1965 also failed to stimulate the rate of expansion in subsequent years. Economic activity picked up somewhat in Indonesia after the overthrow of Sukarno, but with the chaos he left behind it will be several years before Indonesia even regains pre-World War II production levels on a per capita basis. Burma, stubbornly committed to General Ne Win's version of Marxism, continued to stagnate.

War-Related Increases in East Asia's
Foreign Exchange Earnings

9. In marked contrast to the Korean conflict, when enormous quantities of goods and services to support the United Nations forces were purchased in East Asia, only a very small fraction of the tens of billions of dollars the United States has spent on the war in Vietnam have actually flowed

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into the economies of East Asian countries. The main reasons are the existence of excess world capacity for the production of most raw materials and a US policy of minimizing the effects of military spending on its balance of payments. The major direct economic effects of Vietnam war-related spending have been concentrated in the US economy; the direct effects on the rest of the world, including the countries of East Asia, consequently, have been small.

10. The foreign exchange earnings of East Asian countries that are directly attributable to the war are of two general types:

(a) Direct dollar flows, defined to include the following:

US war-related dollar expenditures in East Asian countries other than South Vietnam; and

East Asian exports to South Vietnam, which in one way or another are nearly all financed by the United States.

(b) Indirect dollar flows generated by the increase in East Asian exports to the United States and within the region that can be related to the war.

11. Direct dollar flows* were roughly \$1 billion in 1968, compared with somewhat less than \$100 million in 1965. These flows increased by more than \$500 million in 1966, \$300 million in 1967, and only \$100 million in 1968. More than half of the 1968 expenditures reflect expanded activity at established military bases in Japan, the Philippines, the Ryukyus, and Taiwan, and the construction and activation of new bases in Thailand. Roughly one-fourth of the \$1 billion went to pay for a variety of services, including allied troops, foreign labor working in South Vietnam, rest and recreation for US personnel, and ship repair. The remainder, somewhat less

* See Figure 3 and Tables 1, 5, and 6.

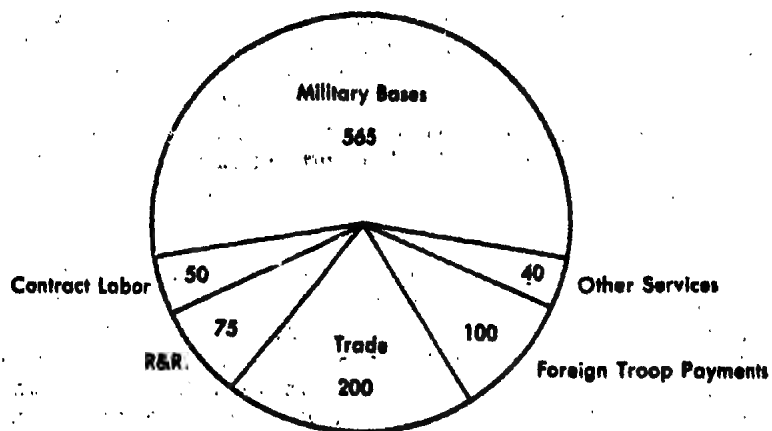
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Figure 3

**US-VIETNAM RELATED SPENDING RESULTING IN DIRECT
DOLLAR FLOWS TO EAST ASIA, 1968**

(Million US Dollars)



TOTAL SPENDING: \$1030 million

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than \$200 million, is attributable to increased Vietnamese imports from East Asian countries financed by the Department of Defense or AID or paid for by the Vietnamese with dollars earned because of the large US presence in the country.

12. The US policy of minimizing the direct overseas expenditures to support the Vietnam war tended, of course, to increase the indirect effects of the war on the US balance of payments. Concentration of expenditures in the US economy tended to increase the strain on US labor and product markets, a strain that has been reflected in a growing rate of inflation. The appearance of inflationary bottlenecks gave rise to a strong demand for imports, and the rise in labor costs eroded the international competitive position of the United States and hence stimulated imports while discouraging exports. It is virtually

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impossible to quantify these indirect effects. These effects on the US balance of payments may have been \$2 billion or so in 1967. One thing is clear, however: the growth in US imports that may have resulted indirectly from the war benefited almost solely the industrial countries. There were virtually no US shortages of raw materials produced in the less developed countries, and, on balance, stockpiles were drawn down, not increased as they had been during the Korean War. The massive increase in US imports consists rather of manufactured goods, such as are produced by Western Europe and Japan. Most countries of East Asia gained little from these indirect effects and indeed experienced stable or declining prices for their principal exports -- like rubber and tin.

13. Indirect effects of war-related spending were estimated only for Japan -- a total of \$750 million in 1968. Of this total \$350 million was accounted for by increased Japanese exports to the United States and another \$400 million by increased Japanese exports to East Asian countries other than South Vietnam. The increase in exports to the United States was calculated from estimates of the effect of the war on total US imports coming from Japan.* The increase in Japanese

* The estimate of effects on the US balance of payments in 1967 is from Leonard Dudley and Peter Passell, "The War in Vietnam and the United States Balance of Payments" Review of Economics and Statistics, November 1968, pages 437-442. In this estimate the indirect effects are obtained in two steps. (1) The import content of the Vietnam-related military expenditures is obtained with the help of coefficients from the US input-output table. (2) The increase in US imports and loss in US exports attributable to the worsening of the competitive position of US products in the domestic and foreign markets are estimated.

A range of \$2 billion to \$2.4 billion is obtained for the total indirect effects. The lower limit of the range is used because the effect of the war on US exports is not relevant to the present study. To obtain an estimate for 1966 and 1968, the figure of \$2 billion for 1967 was changed in proportion to the change in total US imports. To obtain the effect of these changes on Japanese exports, [footnote continued on p. 9]

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commercial exports to East Asia attributable to the war was obtained by comparing the actual growth of Japanese exports to the growth obtained by projecting the pre-war trend.*

14. No estimate was made of indirect effects on East Asian countries other than Japan. Their exports of raw materials to the United States, Japan, and elsewhere failed to expand at rates faster than in the pre-war period, and it is difficult to determine to what extent the rapid increase in exports of light manufactures from Hong Kong, South Korea, and Taiwan are related to the war. Intraregional trade, excluding Japan, has declined in importance in recent years.

15. Thus the total war-related foreign exchange earnings of East Asian countries are estimated at \$1.8 billion in 1968, compared with \$1.1 billion in 1966 and \$1.5 billion in 1967. The estimated annual earnings, direct and indirect, during 1966-68 are shown in Table 1. War-related US spending has varied widely among the countries of the region. For Indonesia, Cambodia, Burma, and New Zealand, US spending has been almost nonexistent. In Australia and Malaysia, such expenditures, while somewhat larger, were still insignificant in terms of the country's GNP. Thus these countries are excluded from any further discussion. In Japan, South Korea, Taiwan, the Philippines, Thailand,

the estimates of additional US imports attributed to the war were multiplied by the share of the increase in total US imports between 1964 and 1968 which came from Japan (15 percent).

* This figure was derived by projecting to 1968 the 1959-64 growth rate of Japan's exports to East Asia, excluding Australia and New Zealand. This amount was subtracted from actual Japanese exports to the region. The figure of \$400 million thus derived is a very rough estimate that tends to err on the high side, primarily because it neglects the improved ability of Japan to compete with Western European and US producers of sophisticated manufactures that would have tended to increase Japan's East Asian markets even in the absence of the Vietnam war.

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Table 1

**East Asia:
War-Related Foreign Exchange Earnings a/
1966-68**

	<u>Million US \$</u>		
	<u>1966</u>	<u>1967</u>	<u>1968</u>
Japan			
Direct	160	230	250
Direct and indirect	610	830	1,000
Hong Kong	25	35	50
Philippines	80	100	100
Ryukyus	40	90	80
Singapore	20	20	20
South Korea	60	110	150
Taiwan	110	95	100
Thailand	150	220	255
Other East Asian countries	20	20	25
<i>Total direct</i>	<i>665</i>	<i>920</i>	<i>1,030</i>
<i>Total direct and indirect</i>	<i>1,115</i>	<i>1,520</i>	<i>1,780</i>

a. These earnings include balance-of-payments expenditures by the Department of Defense (excluding goods purchased in Japan for post exchanges in South Vietnam which are included in commercial exports) in excess of the 1964 level, AID procurement for Vietnam from East Asian countries, commercial exports of East Asian countries to South Vietnam in excess of the 1964 level, and indirect earnings as described in paragraph 13.

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Hong Kong, and Singapore -- GNP has been measurably affected by US Vietnam spending.*

General Impact of Vietnam Spending

16. The total impact of Vietnam spending on East Asia is measurably greater than the actual dollar flows, but is small relative to the size and growth of the economies (see Table 2). Each new dollar spent works its way through the economy, generating additional spending on consumer goods and services, and thus increases output (the gross national product) by some multiple of the original dollar expenditure. The size of this increase (or "multiplier") is affected by a great many factors, which differ from country to country and from time to time. Part of the new income is used to buy imports, or is saved by individuals, enterprises, or the government instead of being spent on domestic products. The greater the share of income saved or spent on imports, the smaller the multiplier. In some situations, production may respond very little to an increase in demand because of bottlenecks of various kinds. The multiplier is then quite small, and increased spending results primarily in increased imports or in inflation. The multipliers calculated for each of the seven countries indicate an increase in GNP about double the amount of the direct and indirect dollar flow to East Asia in 1968 of some \$1.8 billion (see Appendix A). They are probably on the high side because they do not reflect the possible intensification of production bottlenecks as income grew in some of the countries.

17. There is another factor, in addition to the multiplier effect, which tends to increase GNP. When an increase in demand cannot be met from existing production capacity, it may stimulate increased investment. However, only in Japan is this induced investment likely to have been large. Japan alone among the countries of East Asia faces no significant bottlenecks in expanding output in the engineering and construction industries; the other countries all have problems of absorptive

* The *kyukyus* are excluded from the discussion because the economy of these islands is almost wholly dependent on the US presence.

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SECRET**Table 2****East Asia: War-Related Earnings and GNP
1968**

	<u>Million US \$</u>		<u>Earnings as a Percent of GNP</u>
	<u>Earnings</u>	<u>GNP</u>	
Countries with US bases			
Japan	1,000	140,000	0.7
Ryukyus	80	600	13.3
Philippines	100	6,800	1.5
South Korea	150	5,400	2.8
Taiwan	100	4,000	2.5
Thailand	255	5,800	4.4
Others			
Australia	15	28,000	a/
Burma	Negl.	1,700	a/
Hong Kong	50	2,600	1.9
Indonesia	Negl.	10,700	a/
Malaysia	10	3,200	a/
New Zealand	Negl.	4,600	a/
Singapore	20	1,400	1.4
<i>Total</i>	<i>1,780</i>		

a. Less than 0.5 percent.

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capacity in investment. Moreover, most war-related earnings in Japan came from exports of industrial goods which, directly or indirectly, require considerable investment. Earnings in the other East Asian countries were mainly from the provision of labor services. In 1966, Japan was emerging from a recession, and the additional war-induced output for Vietnam probably was met from unused capacity. In 1967-68, however, the economy was booming and the increased Vietnam spending probably contributed to the rapid rise in investment. This induced investment is calculated to have added \$450 million to GNP in 1967 and \$750 million in 1968 (see Appendix B).

18. The estimated effect of war-related expenditures during 1966-68 on the economies of East Asia is shown in the following tabulation and in Table 8.

Country	1966-68		
	Average Annual Growth Rate of Real GNP	Percent of GNP Growth Attributed to the War	Calculated GNP Growth Rate, Excluding War Impact
Japan	12	5	11+
Hong Kong	8	12	7
Philippines	5	15	4
Singapore	10	6	9+
South Korea	10	15	8+
Taiwan	9	19	7
Thailand	7	28	6

For Japan the effect was calculated for direct expenditures only and for the sum of direct and indirect expenditures. Even with a generous allowance for the multiplier effect and for the war-induced investment in Japan, US war expenditures have had relatively small effects on the growth of GNP in East Asian countries. The economies of Japan, South Korea, Taiwan, Hong Kong, and Singapore probably would have grown at high rates even in the absence of Vietnam-related spending. The impact on the growth of the economies of Taiwan and the Philippines was greatest in 1966. For most

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other countries, 1967 was the year of greatest impact. Although the absolute effect of war-related expenditures was largest in 1968, the increase over 1967 was quite small and consequently so was the effect on economic growth.

19. The total foreign exchange earnings for Japan resulting from direct and indirect dollar flows is estimated at \$1 billion in 1968. This represents about 7 percent of Japan's total exports of goods and services of about \$15 billion in that year. While \$1 billion is a sizable sum, it is comparable to a total increase in Japanese exports of goods and services in 1968 of \$2.5 billion (or 17 percent). The \$780 million of Vietnam-related earnings of other East Asian countries in 1968 compares with their total exports of goods and services of perhaps \$15 billion.

20. Most of the countries of East Asia had substantially larger foreign exchange reserves in 1968 than in 1965. At the end of 1965 the countries most affected by the war had combined reserves amounting to about \$3.5 billion; by the end of 1968 these had grown to \$4.9 billion, as shown below:

International Liquidity a/
1965-68

<u>Country</u>	<u>Million US \$</u>			
	<u>31 Dec 1965</u>	<u>31 Dec 1966</u>	<u>31 Dec 1967</u>	<u>31 Dec 1968</u>
Japan	2,152	2,119	2,030	2,906
Philippines	189	194	180	161
South Korea	146	245	356	409
Taiwan	300	337	416	395 <u>b/</u>
Thailand	739	924	1,009	1,021

a. Gold, foreign exchange, and reserve position in the International Monetary Fund.

b. 30 November 1968.

While part of this buildup almost certainly reflected a conscious decision to increase reserves, some of it probably was an unintended result of

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difficulties in the absorption of additional investment goods coupled with an unwillingness to increase imports of consumer goods rapidly. Whatever the causes of the foreign exchange buildup, the addition to reserves amounted to about half of the added dollar earnings directly attributable to the Vietnam war during 1966-68.

Impact on Individual Countries

Japan

21. Japan received more than one-half of the total East Asian earnings attributable to the US Vietnam-related spending. In 1968 these Japanese earnings amounted to \$1 billion, of which about \$150 million resulted from the buildup of US bases and from services such as ship repair. Exports of goods to South Vietnam in 1968 were roughly \$100 million above the pre-war level. Probably about half of these additional goods were destined for US post exchanges and the remainder was increased exports purchased by the South Vietnamese with funds earned from the large US presence. Roughly an additional \$750 million was earned indirectly from higher exports to the United States (\$350 million) and East Asia (\$400 million).

22. While Japan received by far the greatest benefits from US war-related expenditures, these are not large relative to a GNP of about \$140 billion in 1968. Without the US Vietnam-related spending the country's growth rate probably would still have been greater than 10 percent annually. Japan depends heavily on imports for most of its food and raw materials and has relatively low foreign exchange reserves. When economic growth is especially rapid, as it has been since 1965, imports grow even more rapidly. The boost to foreign exchange earnings resulting from the Vietnam war has made it easier for Japan to pay for rapidly rising imports while at the same time adding to foreign exchange reserves.

23. The growing competitiveness of Japanese products was a far more important cause of the rapid growth of Japan's exports and output than the Vietnam war. Japan has been able to increase its share of total world exports rapidly. In the large US market alone, Japan's share rose from

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less than 9 percent in 1963 to more than 12 percent in 1968. This trend is mainly attributable to the Japanese ability to market in this country consumer electronic equipment, automobiles, and steel products which have little direct relation to the war.

Hong Kong

24. Hong Kong obtained about \$50 million in 1968 from Vietnam-related US spending, nearly one-half of which was for rest and recreation, one-fourth other services, and the remainder exports to South Vietnam. At most, only about 1 percent of the colony's 10 percent real growth rate in 1968 could be attributable to South Vietnam. The major growth stimulant has been the rise in exports of inexpensive textiles and other commodities.

Philippines

25. Some 85 percent of the Vietnam-related US expenditures of \$100 million in the Philippines in 1968 is attributable to the buildup of US military bases there. The remaining 15 percent comes from spending on rest and recreation and remittances from Filipino workers in South Vietnam. Much of the increased earnings were probably spent on imports, legal or illegal. The effect on the economy's growth -- which remains about 5 percent per year -- was probably very small.

Singapore

26. Singapore's exports to South Vietnam reached about \$100 million in 1967, making this country the third most important supplier of that market after the United States and Japan. Most of these shipments, however, are petroleum products that were either refined or just temporarily stored in this entrepôt and the remaining exports were mainly re-exports of goods mostly produced outside of East Asia. Singapore's earnings from these services, therefore, are far below the export value. Net earnings on this trade probably did not exceed \$10 million, and an additional \$10 million was earned mainly from rest and recreation and ship repairing. The income generated from this Vietnam-related spending by the United States

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would, at most, affect the Singaporean growth rate by 1 percent out of a growth which has been averaging 10 percent annually in recent years. Singapore's growth is mainly the result of exports of light manufactures and, more recently, of a revival of trade with Indonesia.

South Korea

27. Korean earnings from the Vietnam war rose rapidly to about \$150 million in 1968. Half of the 1968 earnings are attributable to the US payments in support of two Korean divisions in Vietnam. South Korea receives dollars from troops remitting part of their pay and from US payments to South Korea for supplies to support its troops. About one-fourth of the total was earned by civilian labor and Korean construction firms working in South Vietnam, while most of the remaining quarter was the result of the buildup of US forces in South Korea. South Korean exports to South Vietnam, which are mostly financed by AID purchases, were never large and have even been declining over the last three years. South Korea is not able to supply the types of goods needed in South Vietnam.

28. Vietnam-related expenditures, at most, accounted for about 16 percent of South Korea's real growth rate of 10 percent in GNP in 1968. But even this percentage is probably too high. If the two South Korean divisions had not gone to South Vietnam, their maintenance would have made some contribution to the national product. Moreover, perhaps as much as \$20 million of the additional expenditures treated as Vietnam-related in 1968 were a result of the US troop buildup following the *Pueblo* hijacking incident. South Korean growth resulted primarily from increased exports, particularly to the United States and Japan. Total exports rose from \$320 million in 1967 to about \$500 million in 1968. South Korea advantageously uses its cheap labor to expand its share of the world market for low-priced goods such as textiles.

Taiwan

29. Taiwan earned some \$100 million in 1968 from US Vietnam war spending. Almost half of the

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total was earned from the buildup of the US Air Force base at Ching Chuan Kang, which now has 5,000 American residents, compared with about 300 in 1965. Some 10 percent is attributable to spending on rest and recreation and other services provided on the island. The increase in Taiwanese exports to South Vietnam above the 1963 level is treated as being war-related and accounts for the remaining 40 percent. These exports, paid for directly by AID, consist mostly of building supplies, sugar, and fertilizer.

30. Vietnam-related expenditures in Taiwan reached a peak in 1966, when AID-financed imports for South Vietnam from Taiwan approached \$70 million, or almost 15 percent of all Taiwanese exports. These purchases dropped sharply during 1967 and 1968. Nevertheless, Taiwan's total exports rose 20 percent in both years, and, consequently, Taiwan's economy absorbed this reduction in exports to South Vietnam without a slackening in its high rate of growth. In Taiwan, as in South Korea, the ability to increase commercial exports is a considerably more important growth factor than US spending on South Vietnam.

Thailand

31. The greatest increase in US military spending outside of South Vietnam occurred in Thailand. US military spending in Thailand rose from almost nothing in 1964 to more than \$200 million in 1967. Spending continued to rise in the first half of 1968 but started to fall in the latter part of the year as many large-scale construction projects neared completion. For the year as a whole, US military expenditures totaled about \$220 million. Thailand also earned some \$20 million from rest and recreation and about \$15 million from additional exports to South Vietnam, yielding a total dollar gain of about \$255 million in 1968.

32. The gains from US war spending were more important in Thailand than elsewhere. They came at a time when this predominantly agricultural economy was suffering from two severe droughts, which slowed down the rate of expansion of GNP from 7 percent or higher to about 5 percent in 1967. Growth during 1967 and 1968 almost certainly would

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have been significantly lower if it had not been for the increased US presence. The US war-related activities benefited mainly the remotely populated northeast and the Bangkok region.

33. Thanks to US war spending and high rice prices, Thailand increased its foreign exchange holdings by about \$100 million annually through 1967. Moreover, reserves were maintained at high levels throughout 1968 despite the sharp decline in exports resulting from the drought. In 1968 the Thai foreign reserves remained at the extremely high level of about \$1 billion, equivalent to about one year's imports.

Prospects for the Area

34. Any adverse impact on East Asia of the ending of US expenditures related to the Vietnam war will probably be small. US spending is likely to be phased out over a number of years, and some of the war-related outlays will almost certainly be replaced by new expenditures from the United States, Western Europe, and Japan that are designed to rehabilitate the economies of South Vietnam and the other war-torn countries of Indochina.

35. Even in the unlikely case that US military spending were to stop quickly -- say within two years -- the adverse effect on the growth rates of East Asian countries would not be large. This short-term span for withdrawal would be about equivalent to the time taken to rapidly build up the US military forces during 1966 and 1967, the effect of which on the growth of the area economies was small.

36. Moreover, the countries which would be most affected by a cessation in Vietnam-related spending have considerably built up their exchange reserves in recent years. These increased reserves will facilitate fiscal and monetary policies aimed at making any transition that might be required. Thailand, for example, has foreign exchange reserves equivalent to about a year's imports.

37. There will be some problems, but they should be manageable. Some firms in the region that have become dependent on Vietnam-related business will be hurt. For example, certain cement producers in

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Taiwan sell a large part of their output in South Vietnam. A decline in dollar spending in the Philippines would make that country's chronic balance-of-payments problems somewhat more difficult to handle. A larger problem could arise in Japan. If the balance of payments turned to a deficit, Japan's financial managers might impose financial constraints that would dampen the growth of imports from other East Asian countries. But Japan's growth rate would probably continue to be high.

38. Whether or not the countries of East Asia continue to grow rapidly in the next few years will depend on the same basic factors that have governed their growth during the last few years. As long as the US and Japanese economies continue to grow and as long as the countries of the area continue to follow relatively prudent economic policies, their growth rates in the next few years will probably approach those of the recent past.

SECRET**APPENDIX A****The Multiplier Effect**

The term *multiplier* as used in this memorandum describes the relation between an autonomous increase in expenditures and the resulting increase in total consumption expenditures by households and the government. The effect, if any, on investment is treated separately, outside the multiplier analysis. Consequently, the effect on consumption is the same as that on GNP.

An autonomous increase in expenditures can be expected to increase GNP by a considerably larger amount. It generates new incomes, part of which are spent on domestically produced goods and services, thus again generating new incomes, and in turn new spending. Each new increment in income and spending is smaller than the previous one because part of income is saved and part is spent on imports. The larger the share of new income that is saved and spent on imports, the smaller the impact of the original spending on the economy (and so the smaller the multiplier). The multiplier calculations in this memorandum define the leakages from the income stream (savings and imports) to include total gross national savings (by households, enterprises, and government). Consequently, the percentage of GNP spent on domestic goods represents total final purchases by households and government. The formula used to determine the multiplier is as follows:

$$M = \frac{1}{1 - MPC}$$

where:

M is the multiplier

MPC is the marginal propensity to consume (the share of the increase in income spent on consumption).

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Calculation of multipliers involves some serious statistical and analytical difficulties. National accounts data are inadequate to permit accurate estimates of the proper variables. It was necessary to use the average ratio of gross savings and imports to GNP in 1966 because ratios applicable to increments in GNP were not available. Savings and imports may take substantially higher shares of income increments than of income levels because of lags in the adjustment of consumer or government spending to the rise in income and, in some cases, because of the inability of production to respond to increased demands (because of full utilization of capacity or bottlenecks of various kinds). Some of the countries, moreover, have no useable data on national savings, and it was necessary to use investment expenditures (net of the foreign balance) to represent savings.

The main analytical problem was the determination of the time needed for the multiplier to take effect -- for the original increment in expenditures to work itself through the income stream. This problem was handled by assuming varying time lags between receipt of income and expenditure from this income. The results of the application of the multipliers from Table 3, with three different assumptions as to time lags, are shown in Table 4.

In the first case, a simultaneous multiplier is assumed -- the full expansion resulting from the injection of new income takes place the same year that the income was received. This is obviously an extreme case which overstates the effect on the economy. In the other two cases, the multipliers for 1966-68 use periods of four and six months, respectively. The autonomous increase in income each year is divided into three and two equal parts, and lags of four and six months are assumed between receipts and expenditures. The calculated effects are, of course, smaller as the length of the assumed lag increases. Some of the effects of new expenditures in 1968 will continue into 1969. Only those occurring in 1966-68 are counted. A four month lag is used as a best estimate. Even so, this estimate is on the high side because the calculations of the multipliers themselves make no allowance for increasing limitations to the growth of production as income rises.

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Table 3

Derivation of the Multipliers for East Asian Countries a/
1966

Country	1966 $PI = \frac{\text{Imports}}{\text{GNE}}$	1966 $PS = \frac{\text{Savings}}{\text{GNE}}$	1966 $M = \frac{1}{PI + PS}$
Japan	0.094	0.363	2.19
Hong Kong <u>b/</u>	N.A.	N.A.	N.A.
Philippines	0.179	0.232	2.43
Singapore <u>c/</u>	0.528	0.170	1.43
South Korea	0.201	0.130	3.02
Taiwan	0.215	0.222	2.29
Thailand	0.190	0.256	2.19

a. PI = propensity to import; PS = propensity to save; GNE = gross national expenditure = gross national product; and M = multiplier.

b. Sufficient national accounts data for Hong Kong are not available, and, therefore, it is impossible to calculate a multiplier. The multiplier is assumed to be around 1.6 on the basis of the similarity between Hong Kong and Singapore.

c. The estimate for Singapore is extremely tenuous because of large entrepôt trade, remittances abroad, and capital movements. However, other studies have estimated the multiplier to be around 1.6.

Table 4
Additions to GNP Due to Multiplied Effects
of War-Related Earnings in East Asia
1966-68

	Million US \$						
	<u>Japan</u>	<u>Hong Kong</u>	<u>Philip- pines</u>	<u>Singa- pore</u>	<u>South Korea</u>	<u>Taiwan</u>	<u>Thailand</u>
1966							
Simultaneous	1,335	40	193	30	180	250	330
Four-month							
periods	890	30	120	25	95	165	220
Six-month							
periods	775	30	105	25	80	140	190
1967							
Simultaneous	1,820	55	245	30	330	220	480
Four-month							
periods	1,585	55	210	30	235	215	415
Six-month							
periods	1,450	50	190	30	200	195	375
1968							
Simultaneous	2,190	80	245	30	450	230	560
Four-month							
periods	2,030	75	240	30	365	225	520
Six-month							
periods	1,925	75	225	30	330	220	495

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SECRET**Table 5**

**US Vietnam-Related Defense Department Expenditures
in East Asia
Which Affect the US Balance of Payments a/
1965-68**

	<u>Million US \$</u>			
	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
Japan <u>b/</u>	25	130	185	210
Australia	..	10	10	10
Hong Kong	..	10	20	30
Malaysia	..	10	10	10
Philippines	10	80	100	100
Ryukyus	10	40	90	80
Singapore	..	10	10	10
South Korea	..	50	110	150
Taiwan	..	40	50	60
Thailand	50	150	230	240
<i>Total</i>	<i>96</i>	<i>530</i>	<i>825</i>	<i>900</i>

a. Excluding South Vietnam.

b. Including goods purchased for post exchanges in South Vietnam. In calculating total war-induced earnings, these purchases are excluded because they are already accounted for in the category of increased Japanese exports to South Vietnam.

Table 6
US AID Procurement for South Vietnam
from non-US Sources
1963-68

	Million US \$					
	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968 a/</u>
East Asia	<u>55</u>	<u>37</u>	<u>58</u>	<u>117</u>	<u>69</u>	<u>72</u>
Japan	1	Negl.	Negl.	4	3	10
Hong Kong	1	Negl.	2	2	1	Negl.
Indonesia	16	3	4
Malaysia	..	1	10	3	2	3
Philippines	1	Negl.	..	1	1	2
Singapore	1	1	1	9	14	15
Taiwan	25	24	24	68	45	40
Thailand	..	1	3	17	Negl.	Negl.
Other countries	<u>22</u>	<u>16</u>	<u>17</u>	<u>27</u>	<u>20</u>	<u>10</u>
Total	77	53	75	144	89	81

a. Estimate.

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SECRET**APPENDIX B****Induced Investment**

The term *induced investment* as used in this memorandum describes the relationship between a war-related increase in income or GNP and the resulting increase in investment. The effect of increases in income on consumption is described in Appendix A. An increase in expenditures may call forth an increase in investment. The amount of this additional investment varies with the magnitude of the increased demand for goods and services, the incremental capital-output ratio -- that is, the relationship between the additions to capital stock and the consequent increased output -- and the import content of the new plant and equipment. To calculate the full effect on GNP as a result of these domestic investment expenditures, the four-month multiplier calculated in Appendix A was used.

Calculations of induced investment attributable to Vietnam-related spending in Japan involves serious difficulties. The main problem is taking into consideration the phase of the Japanese business cycle, the amount of excess plant capacity, and investments made independently of the increased demand generated by the war-related expenditures. In 1966, the first year of large Vietnam war outlays, Japan was coming out of the 1965 "recession" and all the increased war demand was probably met by bringing into operation previously unutilized plant capacity. During 1966, such unused capacity ranged between 10 and 20 percent; in 1967 between 5 to 10 percent; and in 1968, plant capacity was nearly fully utilized. As rough orders of magnitude, it is assumed that new investment was required to meet 25 percent of the war-related demands in 1967 and 50 percent in 1968. The formulas to determine the induced investment and the resulting additions to GNP are as follows:

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(a) $I = \Delta Y r b d$

Where:

I = induced investment

ΔY = incremental war-related income

**r = the portion of ΔY assumed to
result in new investment**

b = incremental capital-output ratio

**d = portion of capital goods produced
locally.**

(b) $Y = IM$

Where:

Y = additions to GNP

M = multiplier (from Table 3)

**These variables are given in Table 7 and the
results are shown in Table 8.**

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Table 7

Japan: Computation of Vietnam War Induced Investment
and Its Effect on GNP
1966-68

Million US \$							
<u>Year</u>	<u>ΔY a/</u>	<u>r</u>	<u>b</u>	<u>d</u>	<u>I</u>	<u>M b/</u>	<u>Y</u>
1966	890	0	2	0.85	0
1967	695	0.25	2	0.85	300	1.50	450
1968	445	0.50	2	0.85	380	1.97	750

a. See Table 3.

<u>Year</u>	<u>Contribution to GNP of War-Related Income</u>	<u>Incremental War-Related Income</u>
1965	0	0
1966	890	890
1967	1,585	595
1968	2,030	445

b. Effect of applying a multiplier of 2.19 with a four-month lag.

Table 8

East Asia: The Impact of the Vietnam War on GNP
1966-68

	Year	GNP (Million US \$)		Increase in GNP (Million US \$)		Percent of Increased GNP Attributable to	
		Total	War-Related	Total	War-Related	Non-War-Related Expenditures	War-Related Expenditures
Japan	1966	101,000	890	15,000	890	94	6
	1967	120,000	2,035	19,000	1,145	94	6
	1968	140,000	2,780	20,000	745	96	4
Hong Kong	1966	2,230	30	220	30	86	14
	1967	2,400	55	170	25	85	15
	1968	2,640	75	240	20	92	8
Philippines	1966	5,800	120	540	120	78	22
	1967	6,330	210	530	90	83	17
	1968	6,850	240	520	30	94	6
Singapore	1966	1,050	25	145	25	83	17
	1967	1,225	30	175	5	97	3
	1968	1,400	30	175	0	100	0
South Korea	1966	3,820	95	850	95	89	11
	1967	4,550	235	730	140	81	19
	1968	5,350	365	800	130	84	16
Taiwan	1966	3,050	165	310	165	47	53
	1967	3,450	215	400	50	88	12
	1968	3,950	225	500	10	98	2
Thailand	1966	4,875	220	725	160 a/	78	22
	1967	5,300	415	425	195	54	46
	1968	5,810	520	510	105	79	21

a. War-related expenditures in 1966 were \$60 million.